Malpractice Judgments: The Influence of Sadness and Anger on Blame and Punishment

Honors Research Thesis

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by

Mary Kate Tompkins

The Ohio State University
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Project Advisor: Professor Hal R. Arkes, Department of Psychology

Abstract

When an unfavorable event occurs, people have a tendency to assign blame on personnel as opposed to the system in which the person is embedded. The tendency to blame accidents on human error and create human-focused remedies is problematic because it will not always prevent the adverse outcome from occurring. Some adverse outcomes, such as a death of a patient, may lead to malpractice lawsuits. In a malpractice trial, the prosecutor and defense can use sadness and anger to sway jurors in their favor. Previous research has demonstrated that these emotions have differential effects on judgments of causation and levels of compensation (Keltner, Ellsworth, & Edwards, 1993; Small & Lerner, 2008). The present study examined the effects of sadness and anger on attributions of causation and the assigned levels of punishment in a mock medical malpractice trial. Participants watched a video clip that elicited feelings of anger, sadness, or neutrality. Following the video primes, subjects read a malpractice scenario and answered questions regarding who or what was at fault for the death of a patient, and how much punishment that person or system should be given. Results indicated that overall, people were more likely to blame personnel for the death of the patient than systemic issues, with no main effect of emotion on causal attribution. In a comparison between sadness and neutral conditions, sad participants assigned significantly less punishment to personnel relative to neutral participants.

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When perceiving the causes of a behavior, people have a tendency to overestimate dispositional bases of the behavior and underestimate situational bases of the behavior (Jones & Nisbett, 1971). This tendency is known as the fundamental attribution error (Ross, 1977). Determining the causes of a behavior or outcome is known as arriving at an attribution (Jones, Kanouse, Kelley, Nisbett, Valins, & Weiner, 1971). Similar to the fundamental attribution error, organizational research of industries has found that people are more likely to blame accidents on human errors than on the system or environment in which an accident occurred (Norman, 1992; Perrow, 1984). For example, Gyekye and Salminen (2004) conducted a study in Ghana that examined supervisors' causal attributions of real industrial accidents in their businesses. Results indicated that supervisors persistently attributed accidents to workers' dispositional factors, such as misconduct or carelessness, and only marginally attributed accidents to systemic factors, such as work overload or inadequate training (Gyekye & Salminen, 2004).

Not only are people inclined to make dispositional attributions following a negative event, but they are also inclined to form human-focused remedies (Morris, Moore, & Sim, 1999). An example of a human-focused remedy is firing an employee and replacing him or her with a new person. Morris et al. (1999) examined the influence of counterfactual, or "if only," thinking on remedy decisions following organizational accidents. Participants were presented with a case study of an accident that occurred at a lawn mower factory. Participants completed the sentence, "If only….this accident would not have happened," and decided what to do to reduce the chances of future accidents. Morris et al. found that most participants blamed the accident on a worker's actions. The experiment also demonstrated that the association between human-focused "if only" conjectures and human focused remedies was highly significant. "If only" thinking led to a

narrowing of focus on human action, which carried through to remedy decisions (Morris et al., 1999). Morris and colleagues found this to be the case even though the accident was designed so that a narrow human-focused plan was not considered favorable. Participants in a pilot study confirmed that the human-focused plan was not considered favorable. Overall, the tendency to blame accidents on human error and create human-focused remedies is problematic because it will not always prevent the adverse outcome from occurring. If the system or environment is at fault for the accident, then the accident will continue to occur regardless of the amount of people that the company hires and fires.

The findings of Morris et al. have intriguing implications for medical judgments. Research by Mitchell and Wood (1980) examined causal attributions made by nurse directors from seven hospitals for serious medical incidents. Much like other organizational research, results indicated that a person, the nurse, was seen as the cause of the incident; therefore, the director considered it appropriate to direct her response to the nurse to prevent future accidents (Mitchell & Wood, 1980). In the medical field, incorrectly addressing a problem by persistently making human-based remedy decisions can lead to terrible outcomes, such as the loss of lives. If a patient dies due to poor hospital policy, but management addresses personnel factors, then more patients could die. The purpose of the present study was to examine the influence of negative emotions on the two subtypes of causal attributions for malpractice judgments. More specifically, we investigated the influence of sadness and anger on jurors' causal attributions and assigned levels of punishment in a malpractice trial scenario.

Emotions and Causal Attributions

In the courtroom both the prosecutor and defense use emotions to try to sway jurors in their respective direction. For example, the prosecution in a murder trial may show a photograph

of the victim in her everyday life to elicit jurors' sympathy (Feigenson, 2010). Research has demonstrated that emotions can in fact impact mock jurors' judgments in a trial (Bornstein, 1998; Goldberg, Lerner, & Tetlock, 1999; Lerner, Goldberg, & Tetlock, 1998; Small & Lerner, 2008). Two negative emotions that can be elicited in a liability hearing regarding the death of a patient include sadness and anger. While these two emotions are both negatively valenced, they can be very different in other dimensions. Smith and Ellsworth (1985) describe differences in emotion as the way people differentially appraise or assess their environment along a number of cognitive dimensions. Smith and Ellsworth asked participants to describe 15 emotions in great detail. They found that different patterns of appraisals were strongly linked with certain emotions. Results indicated that anger was associated with strong attributions of human agency. Human agency is the extent to which an affective situation is controlled by a person (Smith & Ellsworth, 1985). They also found that sadness was distinguished from all other emotions by strong appraisals of situational control. Situational control is defined as the extent to which an affective situation is controlled by circumstances (Smith & Ellsworth, 1985). This research demonstrates that sadness and anger differ on appraisals of control, even though both emotions are negatively valenced.

Similarly, research by Keltner, Ellsworth, and Edwards (1993) found that experiencing sadness or anger encouraged subjects to attribute the cause of an event differently, depending on which emotion was induced. Participants primed with incidental sadness were more likely to attribute the cause of a social mishap to situational factors than participants primed with incidental anger. Incidental emotions are feelings that are elicited in events that are unrelated to the event that is being judged (Small & Lerner 2006). Keltner et al. also found that angry participants were more likely than sad participants to blame the unfortunate social event on other

people. In addition, neutral participants blamed others less than angry participants and blamed impersonal forces less than sad participants. Lastly, sad participants rated the likelihood of future situationally caused negative events as more likely to occur than angry participants, and angry participants rated the likelihood of future negative events caused by people as more likely to occur than sad participants (Keltner et al., 1993). This pattern was found regardless of the salience of situational or dispositional factors in the scenario that described the social mishap.

Previous research has also shown that sadness and anger differ on their level of systematic processing. Anger is associated with feelings of certainty about the causes of events and tends to be associated with heuristic processing (Lerner et al., 1998; Lerner & Tiedens, 2006). Heuristic processing is spontaneous, quick, and relies on general knowledge structures (Lerner & Tiedens, 2006). In contrast, sadness is associated with deliberative thought (Small & Lerner, 2008). Research by Small and Lerner (2008) examined the differences in systematic thought between sadness and anger by looking at participants' willingness to provide assistance in a welfare case. In the first of two experiments, they found that individuals primed with incidental sadness gave significantly more money than individuals primed with incidental anger and individuals in a neutral emotion condition. Angry individuals gave the least amount of money by decreasing the amount of assistance that the welfare recipient received. Small and Lerner proposed that sad individuals were more likely to take the recipients situation into account and awarded more assistance, while angry individuals blamed the recipient for her misfortune and decreased assistance because of the differences in depth-of-thought of each emotion.

In order to determine if the results were driven by the emotions' differences in depth-of-thought, they conducted the experiment again, but included a cognitive load condition. In the

cognitive load condition, participants completed a listening task that forced them to keep track of the number of times a tone changed pitch. Small and Lerner found that the difference in providing assistance between the sadness and anger conditions diminished under the cognitive load condition. This second study was based on previous findings suggesting that people first make dispositional inferences about an actor's behavior in a process known as characterization, which is relatively automatic and requires little effort or attention (Gilbert & Krull, 1988). People then adjust these inferences to include situational factors by a process known as correction, which is relatively controlled and deliberate (Gilbert & Krull, 1988). Gilbert and Krull (1988) proposed that people are only able to consider situational factors if they are not cognitively busy. Therefore, Small and Lerner's (2008) results suggest that sad participants' greater willingness to provide public welfare assistance in comparison to angry and neutral participants arose from more effortful processing. This greater processing allowed sad participants to correct for the tendency to blame the recipient for needing welfare and instead consider the recipient's situation. In the second study, when sad participants were cognitively busy, they were unable to take the recipients situation into account and therefore responded like the angry participants. In turn, more effortful processing allows for people to make more situational attributions.

While the previous studies looked at differences in judgments between incidental sadness and anger, earlier research by Small, Lerner, and Fischhoff (2006) examined whether integral anger would elicit more causal attributions of any type than integral sadness. Integral emotions are feelings that are elicited from the event that is being judged (Small et al., 2006). Small et al. predicted that anger would elicit more causal judgments than sadness due to anger's association with blame and punishment (Averill, 1983). In a national field study, people were asked "what

aspect of the terrorist attacks makes you the most *angry (sad),"* and "why does it make you so *angry (sad)."* Results indicated that anger brought causal judgments to mind more often than did sadness. In regards to types of attributions, dispositional attributions were more common than situational attributions in both the anger and sadness manipulations. Sadness and anger did not differentially evoke these two types of attributions. Instead, Small et al. suggested that these results may have reflected the subject matter because the media devoted so much attention to the perpetrators. In other words, real world stimuli may have fueled dispositional attributions.

Aside from the work by Small et al. (2006), Small and Lerner (2008), and Keltner et al. (1993), relatively little is known about the domains in which sadness and anger differentially affect causal attributions. The purpose of the present study was to replicate Keltner et al.'s findings comparing the different effects of sadness and anger on causal attributions, but in the domain of medical malpractice judgments. Given that Small and Lerner (2008) found significant differences in the amount of welfare money awarded, but did not find any systematic differences between emotions and type of causal attributions, we also examined the degree of punishment that participants assigned for the death of a patient in the malpractice trial scenario. Previous research by Lerner, Goldberg, and Tetlock (1998) found that participants who were primed with anger made more punitive attributions in a fictional tort case than participants who were not primed with a specific emotion.

Determining whether the death of a patient occurred due to systemic problems (e.g., hospital policies and procedures) or personnel (e.g., pathologist, surgeon) is important in medical decision making. If the problem was due to systemic issues, but personnel were blamed, the problem would continue to occur regardless of the number of employees the hospital replaces. In this situation, people would continue to die if problems with hospital's policies and/or

procedures were not addressed. Given that sadness and anger can create differences in causal judgments (e.g., Keltner et al., 1993), it is informative to know the effects of these emotions in a courtroom setting.

Participants were randomly assigned to one of the following emotion conditions: anger, sadness, or neutrality. Participants in each condition watched video clips to elicit the target emotion or no emotion. Following the videos, participants completed a second, unrelated "study." Instructions requested that the participants take the viewpoint of jurors in a malpractice lawsuit before reading the surgery scenario. Next, participants were asked to answer questions about punishment and attributions of causality. We hypothesized that overall, people would be more likely to judge human error as the cause of the patient's death, but there would be a main effect of the type of emotion on the type of causal attribution, similar to the findings of Keltner et al. (1993). Participants in the sadness condition would judge systemic issues as the cause of the death more often than participants in the anger condition and neutral condition. In contrast, participants in the anger condition would judge personnel as more responsible for the death of the patient than participants in the sad condition and neutral condition. In addition, we hypothesized that participants primed with anger would assign the highest degree of punishment, followed by neutral participants and then by sad participants.

Method

Participants

A total of 90 undergraduate students from The Ohio State University's REP research pool completed the between subjects experiment for course credit. Participants were randomly assigned to one of three emotional conditions: anger, sadness, or neutrality.

Measures

Measure of Baseline Affect

The Positive and Negative Affect Scale. (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS was used to determine the extent to which participants felt each of 24 different emotions at that moment. The scale ranges from 1(*very slightly or not at all*) to 5(*extremely*). The scales have high internal consistency (PA, $\alpha = 0.89$; NA, $\alpha = 0.85$).

Measure of Causal Attribution

"Please indicate the single factor that you believe is most responsible for this adverse outcome." The first dependent variable was an open-ended question coded by two people naive to the conditions. Coders were given instructions and examples of how to code this variable. Coders practiced together on 15 practice statements. I was present while the coders practiced the 15 statements to answer any questions they had. The instruction sheet and coding examples are listed in Appendix A. The 15 practice statements are listed in Appendix B.

Measure of Punishment

"*Irrespective of whether a doctor or the hospital is at fault, how deserving of punishment is this person or party?"* The second dependent variable was answered using a 9-point Likert scale, ranging from 1 (*not at all deserving punishment*) to 9 (*highly deserving punishment*).

Emotion Manipulation Check Measure

The emotion manipulation check was modeled after Gross and Levenson's (1995) self-report method. Participants rated six emotions in alphabetical order on a 9-point Likert scale, ranging from 0 (*did not experience the emotion at all*) to 8 (*experienced the emotion more strongly than ever before*). The emotions participants rated included *"anger," "blue," "content," "gleeful," "mad,"* and *"sad"* and have been used by previous researchers (e.g., Small & Lerner, 2008).

Stimuli

Emotion Prime

My Bodyguard, *The Champ*, and *The National Geographic* TV series video clips (Gross & Levenson, 1995). These videos elicit feelings of anger, sadness, or neutrality, respectively. *My Bodyguard* has a scene of a young adult being beat up and bullied, *The Champ* has a scene of a boy crying at his father's death, and *The National Geographic* TV series has a scene of coral reefs and fish. Gross and Levenson (1995) have demonstrated that these video clips reliably elicit discrete emotions, with minimal levels of other emotions.

Whipple Trial Scenario

The scenario we used to examine malpractice judgments of punishment and blame involved the liability of the death of a patient who underwent a medical procedure known as the Whipple Surgery. In the scenario, a patient with gastrointestinal problems undergoes a "Whipple Type" surgery. The first Pathologist does not find any cancer and the surgeon ends the operation. Shortly after the final report, the second Pathologist does find cancer. The report is sent to the surgeon by mail. Months later, the patient returns to the surgeon. The surgeon finds inoperable cancer, and the patient dies. A previous study of the Whipple Surgery scenario, Arkes and Steinberg (2005), revealed that doctors in a control condition rated human error at fault by 57.9 points and systemic issues at fault by 42.1 points on a 100-point scale. The full malpractice scenario can be found in Appendix C.

Procedure

Participants were instructed to complete two short, unrelated studies to earn the full half hour of research credit. The first study was described as examining participants' visual perceptions of videos. First, participants completed a version of the PANAS to determine the

extent to which they felt each of the 24 different emotions at that moment (Watson et al., 1988).

Following the PANAS, participants watched the video clip to which they were randomly assigned. After watching the video clip, participants answered a number of irrelevant open-ended visual questions about the videos to keep with the cover story. For example, one question that participants answered was "Did the editing of the film clip appear to be choppy or do the scenes flow well together?"

After the irrelevant video questions, participants immediately completed the second study, described as investigating how people determine attributions of responsibility. Participants were requested to take the viewpoint of a juror in a malpractice trial and read the "Whipple Surgery" scenario. After reading the scenario, participants were asked the following questions: "*please indicate the single factor that you believe is most responsible for this adverse outcome*," and "*irrespective of whether a doctor or the hospital is at fault, how deserving of punishment is this person or party*?" Finally, participants were asked to report how they felt while watching the video by rating the extent to which they felt *"anger," "blue," "content," "gleeful," "mad,"* and *"sad."*

Results

Emotion Manipulation Check

We performed an analysis of variance (ANOVA) to determine if the groups differed in affect at the beginning of the experiment. No significant differences in baseline measures of affect were found (PA, $F(2,87) = 0.12$, $p = 0.89$; NA, $F(2,87) = 0.58$, $p = 0.56$). We also performed an ANOVA to determine if the videos elicited the intended emotions for each condition. We averaged participants' self-reported levels of the words "*anger*" and "*mad*," as well as "*sad*" and "*blue*" from the emotion manipulation check measure and performed separate

ANOVAs on these two means. Results indicated significant differences in participants' levels of anger and sadness between the conditions (anger, $F(2,87) = 59.92$, $p < 0.001$; sad, $F(2,87) = 17.16$, $p < 0.001$). Comparison tests revealed that participants in the anger condition ($M_{anger} = 5.80$) were significantly angrier than those in the sadness condition ($M_{sadness} = 3.22$, $p < 0.001$), and neutral condition ($M_{neutral} = 1.92$, $p < 0.001$). Participants in the sadness condition ($M_{sadness} = 5.43$) were not significantly sadder than participants in the angry condition ($M_{anger} = 4.90$, $p = .336$), but were sadder than participants in the neutral condition ($M_{neutral} = 3.32$, $p < 0.001$). In other words, participants in the sadness and anger condition experienced equal levels of sadness. Also, in a test of homogeneity of variances, we found that there was a significant difference in the variance of mean scores of anger ($p = .034$). Mean values of self-reported anger and sadness appear in Figure 1. This was a partial failure of our emotion manipulation.

Causal Attributions and Punishment

We were interested in whether sadness and anger led participants to differentially attribute the death of a patient to personnel or to systemic errors. Two coders reached 86% agreement on their first attempt to categorize the causal attribution dependent variable into the following categories: personnel, policy/hospital system, or neither. Examples of answers that were coded as neither include "I'm not sure…I'm not a doctor" or "I think the cancer had already spread before the operation." The 86% agreement is the fraction of participants' responses that are categorized the same way. The coders then coded the 13 answers that they disagreed on into the appropriate categories following a discussion between themselves. We performed an ANOVA to determine if the conditions significantly differed in their causal judgments. Any answers that were coded as being in the neither category were treated as missing data. We predicted that sad participants would be more likely to attribute the patient's death to

systemic issues than angry participants and that angry participants would be more likely to attribute the patient's death to human error than sad participants. Results indicated that there were no significant differences between the groups ($F(2,78) = 1.40$, $p = .254$). In a test of homogeneity we found that there were significant differences in variance ($p = .011$). Due to this significant difference in variance, we performed a non-parametric Chi-Squared Test. The Chi-Squared Test revealed no significant differences between the conditions ($\chi^2(2, N = 81) = 2.80$, $p > .05$). As predicted, people were overall more likely to judge personnel as the cause of the patient's death ($\chi^2(1, N = 81) = 6.53$, $p < .02$), but there was no main effect of type of emotion on type of causal attribution. The categorization of causal judgments between the sadness and neutral conditions was in the predicted direction, but was not significant. The frequencies of each type of causal attribution made by condition appear in Figure 2.

We were also interested in whether different emotions led participants to assign different levels of punishment. Participants assigned levels of punishment from 1 (*not at all deserving punishment*) to 9 (*highly deserving punishment*). In order to differentiate the two types of punishments, punishing the system or punishing personnel, punishment scores were left positive if participants blamed personnel and were multiplied by -1 if participants blamed the system. We hypothesized that angry participants would assign the highest degree of punishment to personnel, followed by neutral participants, and then sad participants. We did not find significant differences in assigned levels of punishment between the three groups ($M_{anger} = 1.96$; $M_{sadness} = .29$; $M_{neutral} = 3.21$; $F(2,78) = 1.94$, $p = 0.15$). Mean levels of punishment appear in Figure 3.

Supplementary Analysis

Due to our partial emotion manipulation failure, we looked at the causal attributions and punishment levels assigned by only those in the neutral and sadness condition. We took the

angry condition out of the analysis because feelings of anger were contaminated by feelings of sadness. We hypothesized that sad participants would be more likely to blame the death on situational causes than neutral participants. Contrary to our hypothesis, a Chi-Squared Test revealed no significant differences between neutral and sadness conditions for causal attributions ($\chi^2(1, N = 56) = 2.8, p < .10$). We also predicted that sad participants would assign less punishment to personnel than neutral participants. Due to a significant Levene's statistic, ($p = .034$), we performed a t-test with equal variances not assumed. The t-test supported the hypothesis that sad participants punished personnel less than neutral participants ($M_{sad} = .40$; $M_{netural} = 3.23$; $t\ (60) = -2.01$, $p = .049$).

Discussion

The present study was designed to test if sadness and anger differentially influenced juror's causal attributions for a patient's death in a malpractice trial. We predicted that overall, people would be more likely to blame personnel for the accident, but there would be a main effect of type of emotion on type of causal attribution. Feeling angry would make participants more likely to see personnel as the cause of the accident than neutral or sad participants due to decreases in systematic processing. In contrast, feeling sad would make participants more likely to see systemic issues as the cause of the accident than neutral or angry participants due to greater levels of processing. We also predicted that participants would assign punishment to varying degrees depending on which emotion they were feeling. We predicted that angry participants would punish personnel the most, followed by neutral and then sad participants.

As predicted, we found that participants were overall more likely to attribute the patient's death to personnel as opposed to systemic issues. Contrary to our hypothesis, there was no main effect for type of emotion on type of causal judgment made. We also had a partial failure of our

emotion manipulation. The videos we used to elicit feelings of sadness and anger did not discretely elicit the target emotion. Angry participants felt angrier than sad and neutral participants, but angry and sad participants felt equal levels of sadness. Sad participants did feel significantly sadder than neutral participants. The only valid comparison that could be made was between sad participants and neutral participants. We found that the categorization of causal judgments between the sadness and neutral condition was in the predicted direction, but was not significant. In support of our hypothesis, we found that sad participants assigned less punishment to personnel than neutral participants in supplementary analysis. This result is similar to Small and Lerner's (2008) findings in that they found no differences in causal attributions between sadness and neutral conditions, but found differences in awarded compensation. Small and Lerner concluded that more effortful processing allowed for people to make more situational attributions, thus sad participants awarded more compensation than neutral participants due to greater systematic processing. In relation to the present study, we suggest that participants primed with sadness assigned less punishment to personnel than neutral participants because they were more likely to take systematic factors into account.

The present study differs from a previous study by Arkes and Steinberg (2005) in that undergraduate participants in the neutral condition of the current study categorized the cause of death differently than doctors in the control condition of Arkes and Steinberg (2005). In the present study, 75% of neutral participants attributed the cause of the death to human error, while 25% attributed it to systemic factors. In comparison, doctors in a control condition rated human error at fault by 57.9 points and systemic issues at fault by 42.1 points on a 100-point scale. This difference could be due to a number of reasons. One possible reason is that doctors are motivated to blame the system as a self-protection mechanism. Another possible reason is that doctors have

more experience in the medical system than our participants and may be more capable of considering finer details, such as systemic problems, than a layperson.

Another difference between the present study and previous studies (e.g., Keltner et al; Small & Lerner, 2008) is that we did not have participants consider a situation in which they were the direct object of the angry or sad situation for the emotion manipulation. For example, Small and Lerner's (2008) emotion manipulation instructed participants to write an essay about five things that make them most angry or sad. In our emotion manipulation, participants feel angry or sad, but these emotions are not directed at the self. In addition, participants were embedded in Keltner et al's (1993) target scenario and therefore imagined having something negative occur to them. Participants in our study were jurors in the scenario and the adverse outcome did not occur to them. Research by Gould and Sigal (1976) found that if participants were told to imagine themselves in the actor's position and to empathize with him, then participants made more situational attributions for the actor's failures. I hypothesize that the present study and Small and Lerner's (2008) study did not replicate Keltner et al.'s finding for a main effect of emotion on type of attribution because participants were not the actors in the target scenario.

Overall, our findings add to the large number of studies that demonstrate people's tendencies to blame personnel for an adverse outcome as opposed to their environment (Mitchell & Wood, 1980; Morris et al., 1999; Norman, 1992; Perrow, 1984; Small et al., 2006). Blaming personnel is a problem in the medical field when the cause of an incident was not due to human based error, but instead due to problems in the system in which the person is embedded. If jurors decide that particular people are at fault for malpractice trials and fail to consider the hospital policies, patients may continue to die if the hospital does not address the system. Future research

should include strategies to counteract our tendency to blame accidents on human error, and instead take situational factors into account. It would be optimal if these strategies could be implemented in the workforce.

While there are no existing strategies that could be implemented in the workforce, recent research by Stewart, Latu, Kawakami, and Myers (2009) successfully trained participants to make situational attributions for negative stereotypic behaviors through a new technique of situational attribution training. Participants were presented with 480 trials of images of a black man and a sentence describing a black-stereotypic behavior. On the bottom of the screen, two possible explanations of the behavior were listed, one situational and one dispositional. The task was to choose the situational explanation for each trial. Participants then completed a response task in which they had to categorize photos of faces as white or black after seeing a distracter word. These distracter words were either positive or negative. Response latencies were recorded for each trial. Results indicated that participants who went through the training manifested reduced automatic stereotyping in comparison to a control condition and even reduced their activation of negative black stereotypes that were not seen in the training (Stewart et al., 2009) Perhaps a modified version of this training can be applied to organizational accidents to help managers consider situational factors when making remedy decisions.

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Table 1.

Categorization of Causal Judgments for the Death of the Patient by Condition

	Personnel	Situation	Neither
Anger Condition	16	9	5
Sadness Condition	15	13	2
Neutral Condition	21	7	2

Table 1. Categorization of causal judgments for the death of the patient by condition. Overall, people were more likely to judge personnel as the cause of the death than the system. The categorization between the sadness and neutral condition was in the predicted direction, but not significant.

Figure 1.

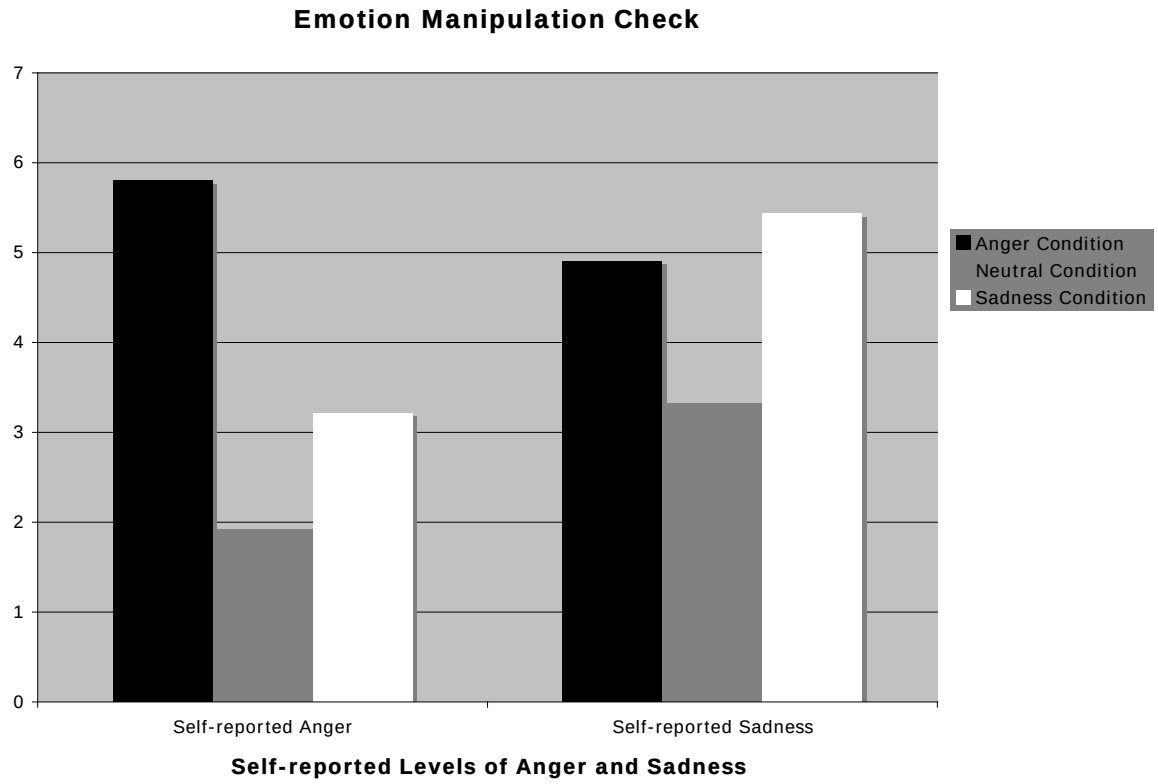

Figure 1. Average emotional intensity of self-reported levels of anger and sadness by condition. There was a significant difference between all three conditions in the self-reported anger. There was also a significant difference between the sadness and neutral condition for self-reported sadness. There was not a significant difference between the sadness and anger condition for self-reported sadness.

Figure 2.

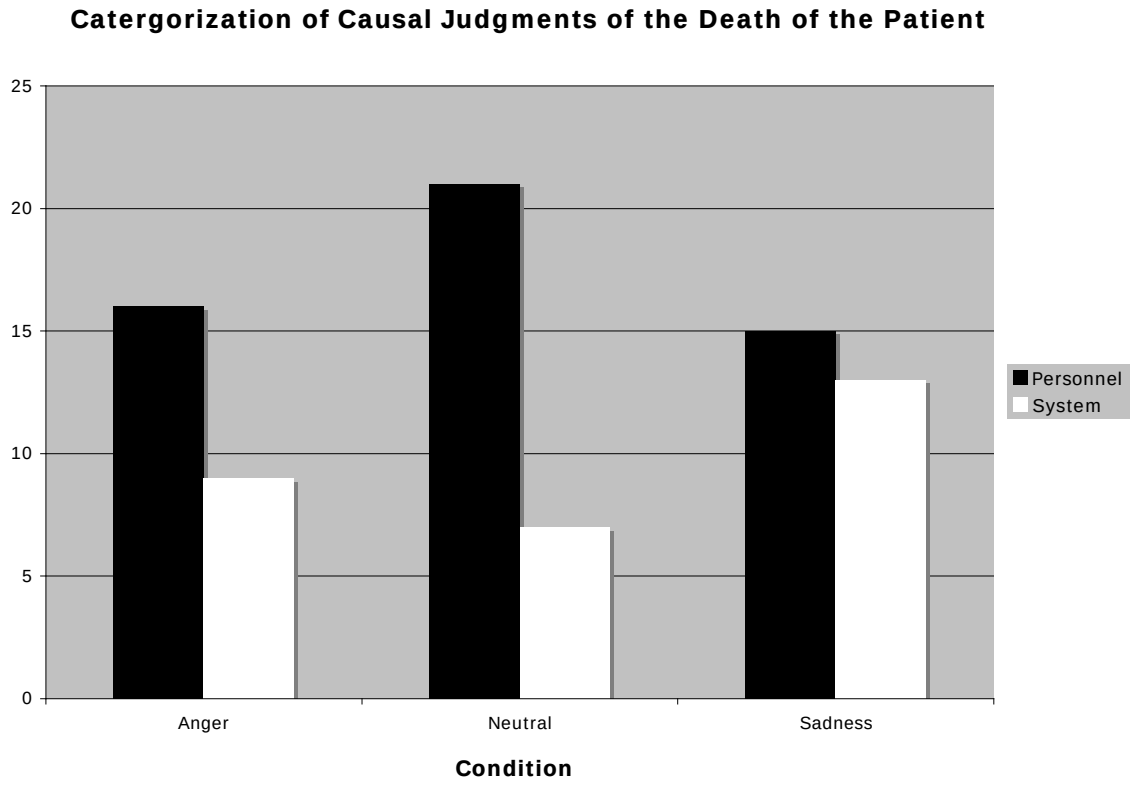

Figure 2. Categorization of causal attributions of the death of the patient by emotion condition.

Overall, people were more likely to judge personnel as the cause of the patient's death ($\chi^2(1, N = 81) = 6.53$, $p < .02$). The categorization between the sadness and neutral condition was in the predicted direction, but was not significant. No significant differences were found for a main effect of type of emotion on type of causal attribution.

Figure 3.

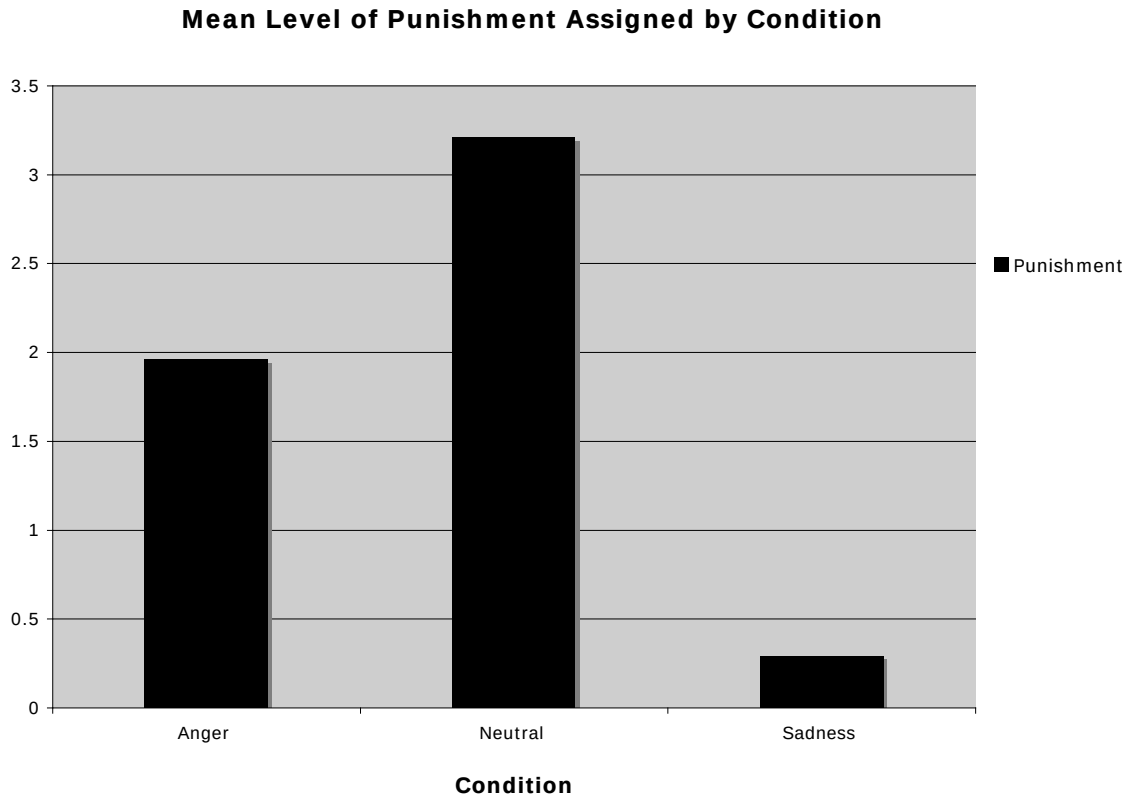

Figure 3. Mean level of punishment assigned by each emotion condition. The punishment scale ranged from 1-9. The punishment individuals assigned to systemic factors was multiplied by -1 and the punishment assigned to personnel remained positive. In a comparison between the sadness and neutral conditions, sad participants assigned less punishment than neutral participants (t (60) = - 2.01, p = .049).

Appendix A

Coding Instruction Sheet

Casey and Sam:

You will both receive and envelope with 90 answer slips. These slips are subjects' answers to question 1 from the Whipple Scenario. Your job will be to code these 90 slips into one of two categories. They are numbered from 1-90, but you do not have to do them in order.

The two categories for the coding are Policy/Environmental Factors and Personnel Factors. You will read each answer slip and determine which category it falls under.

You will also receive two more envelopes; one is labeled *Policy/Environmental Factors,* and the other is labeled *Personnel Factors*. Place each answer slip in the appropriate envelope.

Coding Examples

Policy/Environmental Factors

1. The hospital should institute a system in which all doctors who have interacted with a patient automatically get all reports sent to any one of them.
2. The hospital should institute a system in which electronic communication is used rather than "snail mail."
3. Multiple people should review and be required to agree upon any pathology report.
4. Surgeons should be required to wait until the final pathology report is finished.
5. Some other specialist should have been called
6. The patient should have been referred to a person in a different specialty

Personnel Factors

1. The first pathologist made a terrible mistake in deeming no cancer to be present.
2. One doctor should have informed another doctor.
3. The doctor should not have used “snail mail.”
4. The surgeon should have referred the patient to a doctor with a different specialty
5. The pathologist should have communicated better with the surgeon

The toughest decisions pertain to “communication.” If the response is “Person A should have communicated better with person B,” then this is a personnel factor. If the response is “The hospital should require some policy to prevent poor communication between doctors,” then this is a policy/environmental factor. If the response is just “Lack of communication,” we’ll deem this to be a policy/environmental factor on the grounds that the system did not afford an easy way for the communication to occur.

Some of these are very subtle differences.

Appendix B

15 Practice Coding Examples

1. Pathologist 1 should have been more careful with the evaluations of the margins
2. The second doctor should have communicated better with gastroenterologist
3. The surgeon should not have sent the margins report by “snail mail.”
4. It’s clear that the medical professionals should have communicated better.
5. The one who took the section of the bile duct
6. The pathologist should have told the patient to go see someone else.
7. The second pathologist should have referred the patient to a different specialist.
8. The hospital should require that all reports be sent electronically instead of through “snail mail.”
9. The patient should have been referred to a different doctor after the first bile duct surgery.
10. Lag time in mail.
11. The hospital should create a policy that promotes better communication among the doctors.
12. The cancer had progressed too far; there was no way to save the patient.
13. There wasn’t sufficient communication.
14. The diagnosis should have been made faster or the results should have been sent in a faster form of communication
15. The medical system should create a policy in which all the doctors have to send reports to one another if it relates to the same patient.

Appendix C

Whipple Surgery Scenario

You are requested to take the viewpoint of a Juror in a medical malpractice trial. The following case information was presented during a real medical malpractice trial. At the end of the presentation of this case you will be asked some questions about the contributory causes of the adverse outcomes.

An older patient with gastrointestinal problems and jaundice is referred by a family physician to a gastroenterologist. The specialist works up the patient and strongly suspects cancer. The patient is then referred to a cancer surgeon for surgical exploration and treatment.

The Surgeon schedules a radical “Whipple Type” surgery. A section of the bile duct is removed and sent to surgical pathology for an evaluation of the margins (the edges of the removed section of the bile duct). A report by Pathologist One of no cancer at the margins is returned to the surgeon, and the surgeon closes the operation telling the family that there is no cancer at the margins and the prognosis should be relatively good.

The patient is discharged and seen in the follow-up to check for cancer markers. Shortly thereafter the final pathology report by Pathologist Two reveals cancer at the margins. This report is sent to the gastroenterologist and the surgeon by ordinary mail, which is the normal procedure. There is no other attempt to notify the surgeon of the discrepancy between the final and preliminary pathology reports. Reoperation, at this time, is judged to be overly risky.

Months later the patient presents to the Surgeon with severe jaundice, stomach pain, and dehydration. The surgeon finds inoperable cancer. The patient dies shortly thereafter.